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Estimate of Changes to Fuel Economy Label Values Resulting from the Proposed Mid-Year Label Updating

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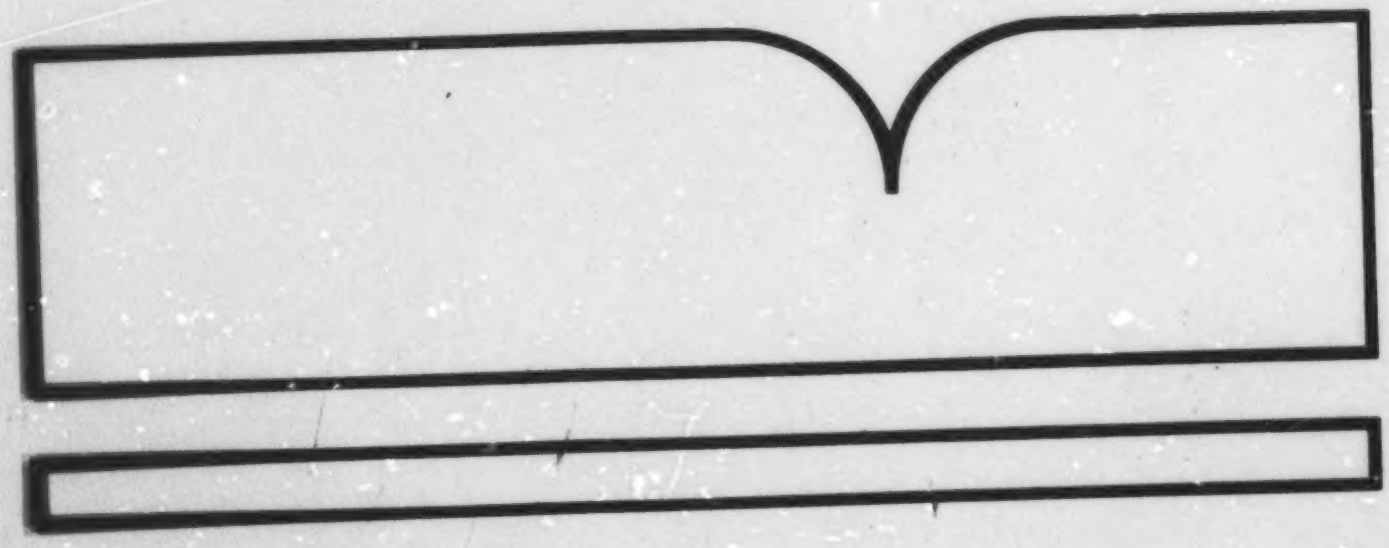

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Technical Support Section
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16. ABSTRACT

The Environmental Protection Agency (EPA) is proposing several changes to the current fuel economy program which will increase the usefulness and representativeness of the fuel economy values to consumers. One of these proposals is to have the label values updated at least once per model year, at about mid-year. The label updating would involve recalculating the label values using revised sales projections and including test data obtained since the initial label calculation. This report estimates the maximum number of label values that would likely change by mid-year and magnitude these changes.

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Estimate of Changes to Fuel Economy Label Values Resulting from the Proposed Mid-Year Label Updating

I. Purpose

Characterize the number, magnitude, and direction of the changes in fuel economy label values that could result if mid-year label updating were adopted.

II. Background

EPA is proposing several changes to the current fuel economy program which will increase the usefulness and representativeness of the fuel economy values to consumers. One of these proposals is to have the label values updated at least once per model year, at about mid-year. The label updating would involve recalculating the label values using revised sales projections and including test data obtained since the initial label calculation.

This report estimates the maximum number of label values that would likely change by mid-year and magnitude these changes.

III. Methodology

There are currently no mid-year sales projections or applicable test data lists. We can, however, estimate the maximum probable change in label values at mid-year by examining the overall changes during the entire model year. This is done by using the label values, produced early in the model year, and the Final Corporate Average Fuel Economy (FCAFE) report model type values. The FCAFE uses actual production figures (not sales projections) and the entire years test results to calculate model type fuel economy values. By subtracting the label value from the FCAFE value, we can determine the change in label value for a given model type over the entire model year. We used this change as a worst-case approximation of the changes we expect in a mid-year labeling program. Since most running changes are implemented during the first half of the model year, using end-of-year data is not a bad approximation, but it is a worst case.

The latest model year with completed FCAFE calculation (as of the time of this report) is 1980. In order to limit the scale of this study but maintain representativeness, this study represents only the ten top selling manufacturers, who's total sales represent over 90 percent of all U.S. sales. These companies are AMC, Chrysler, Ford, General Motors, Honda, Nissan (Datsun), Toyo Kogyo (Mazda), Toyota, Volkswagen, and Fuji Heavy Industries (Subaru). Only the 49-state vehicles were included in the study to further decrease its complexity (California sales are less than 10 percent of all U.S. sales).

Even with these limiting factors, this analysis still involved over 700 model types, representing about 10 million vehicle sales. This was comprised of over 425 passenger vehicle model types (representing production of about 8 million vehicles) and over 250 light truck model types, both two-wheel drive (2WD) and four-wheel drive (4WD) (representing production of about 2 million vehicles).

The data processing consisted of subtracting the model type city and highway values calculated at labeling time (rounded to 0.1 miles per gallon) from the FCAFE model type values (also rounded to 0.1 miles per gallon). The difference between the CAFE and label value had to be at least 1.0 mpg in order for the actual label value to be changed. These model type differences that met this 1.0 mpg requirement were then grouped by vehicle type (passenger, truck, 2WD, 4WD) and by domestic verses foreign vehicles.

IV. Results

The results of the label changes for the 1980 model year are summarized on the attached tables. Table I summarizes passenger automobiles, Table II summarizes light-duty trucks, and Table III is an overall summary. Overall, 4 percent of the model types decreased in label value for the city estimate, and 15 percent decreased for the highway estimate. If we assume a worst case of all of these changes in vehicle fuel economies and sales portions to occur by mid-year, this would represent the maximum likely number of label changes required by the proposed mid-year update. The changing of a label value due to an increase in value would be optional under the proposal.

Table I

Model Type Value Changes
Passenger Automobiles 1980 Model Year

	FCAFE - Label In MPG (Based on a minimum change of 1.0 mpg)						
	-3	-2	-1	0	1	2	3
Domestics (Total No. of Labels: 308)							
City	—	0%	7%	92%	0%	—	—
Highway	3%	5%	13%	77%	2%	—	0%
Foreign (Total No. of Labels: 130)							
City	—	—	5%	95%	—	1%	—
Highway	—	2%	8%	85%	2%	2%	—
Total Vehicles (Total No. of Labels: 438)							
City	—	0%	7%	93%	0%	0%	—
Highway	2%	4%	12%	80%	2%	1%	0%

Table II

Model Type Value Changes
Light-Duty Trucks 1980 Model Year

	FCAFE - Label In MPG (Based on a minimum change of 1.0 mpg)						
	-3	-2	-1	0	1	2	3
Domestics 2WD (Total No. of Labels: 161)							
City	--	--	--	96%	4%	--	--
Highway	--	--	10%	81%	5%	4%	--
Domestic 4WD (Total No. of Labels: 82)							
City	--	2%	1%	95%	1%	--	--
Highway	--	--	13%	85%	1%	--	--
Domestic Total (Total No. of Labels: 243)							
City	--	1%	0%	96%	3%	--	--
Highway	--	--	11%	83%	4%	2%	--
Import 2WD (Total No. of Labels: 21)							
City	--	--		100%	--	--	--
Highway	--	--		100%	--	--	--
Import 4WD (Total No. of Labels: 6)							
City	--	--	--	100%	--	--	--
Highway	--	--	--	100%	--	--	--
Import Total (Total No. of Labels: 27)							
City	--	--		100%	--	--	--
Highway	--	--		100%	--	--	--
Truck Totals (Total No. of Labels: 270)							
City	--	1%	0%	96%	3%	--	--
Highway	--	--	10%	84%	3%	2%	--

Tabel III

Model Type Value Changes
Total 1980 Model Year

FCAFE - Label MPG
(Based on a minimum change of 1.0 mpg)

	-3	-2	-1	0	1	2	3
Trucks 2WD (Total No. of Labels: 182)							
City	--	--	--	97%	3%	--	--
Highway	--	--	9%	84%	4%	3%	--
Trucks 4WD (Total No. of Labels: 88)							
City	--	2%	1%	95%	1%	--	--
Highway	--	--	13%	86%	1%	--	--
All Trucks (Total No. of Labels: 270)							
City	--	1%	0%	96%	3%	--	
Highway	--	--	10%	84%	3%	2%	
Passenger Automobiles (Total No. of Labels: 438)							
City	--	0%	7%	93%	0%	0%	--
Highway	2%	4%	12%	80%	2%	1%	0%
Grand Total (Total No. of Labels: 708)							
City	--	0%	4%	94%	1%	0%	--
Highway	1%	3%	11%	81%	2%	1%	0%